

Prof. Dr. Khalil Ismail Khalil Yousef

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Google Scholar: <https://scholar.google.com/citations?user=JWQivpgAAAAJ&hl=en>



Objective To secure a challenging position in industry, academia, or a research-driven institution where I can leverage my expertise in RFICs, biomedical circuits, and VLSI systems, besides contributing to innovative, sponsored research projects, and continue expanding my academic and professional knowledge.

Professional Summary I am a **Full Professor** specializing in the design of **CMOS integrated circuits (ICs)** for a wide range of applications, including **biomedical circuits and systems (BioCAS)**, **mixed-signal VLSI systems**, and **RF integrated circuits (RFICs)** in the Department of Electrical Engineering (Electronics and Communications Engineering Section) at **Assiut University**, Egypt. I have more than **15 years of combined academic, research, and industrial experience**, including **13 years of teaching and 6 years of academic administration**. My career has been driven by a strong commitment to innovation in engineering education, impactful research, and mentoring the next generation of engineers. I also currently serve as **Chairman of the Electronic and Electrical Devices Program at New Assiut Technological University**. I am a co-founder of the Biomedical Signals, Circuits and Systems Lab (**BioSCASL**) and VLSI Systems Lab at Assiut University, Egypt.

My research focuses on **Microelectronics Engineering**, with expertise in **biomedical circuits and systems (BioCAS)**, **mixed-signal VLSI systems**, and **RFICs design, simulation, physical design (tape-out), implementation, and measurement**. I previously worked as a **Senior Analog/RFIC Design Engineer** at **Si-Ware Systems**, Egypt. I also held a **postdoctoral research position** at **Shanghai Jiao Tong University** in the **Biomedical Circuits and Systems Laboratory (BiCASL)**, **School of Microelectronics**.

I have authored **~50 peer-reviewed journal and conference publications** and have actively contributed to academic leadership and quality assurance activities, including **ABET accreditation processes** and the **National Authority for Quality Assurance and Accreditation of Education (NAQAA)** in Egypt. My research activities include leading and participating in **nationally and internationally funded research projects**, as well as supervising numerous **M.Sc. and Ph.D. theses**.

My teaching philosophy emphasizes **interactive learning and project-based education**, aiming to bridge theoretical foundations with hands-on engineering practice. I seek to contribute to a **dynamic academic environment** where I can further support student development and advance **education and research in electrical and electronic engineering**.

Professional Experiences and Positions **Nov. 2025 to Date, Professor of Microelectronics and BioCAS Engineering**, Electrical Engineering Department, Faculty of Engineering, Assiut University (<https://www.aun.edu.eg/>), Assiut, Egypt.

Preparing and teaching several electrical engineering courses (post-grade and undergraduate) and supervising experimental educational labs beside supervising graduate students and participating in research sponsored projects.

Electronics and Communications Engineering (ECE) Program in the Electrical Engineering Dept. is ABET Accredited to 30th Sept. 2030. It is my pleasure to co-supervise the ABET Self Study Report (SSR) Preparation. For more information about the ECE program, please [Click Here](#).



ENGINEERING ACCREDITATION COMMISSION

CEO, Information Technology Unit, Faculty of Engineering, Assiut University, Assiut, Egypt.

Chairman, Professor, Electrical and Electronic Devices Technology Program, New Assiut Technological University, New Assiut City, Assiut, Egypt

Preparing and teaching electrical/electronic technology courses and supervising technological educational labs beside supervising and coordinating the electrical and electronic devices technology department.

June 2020 to Oct. 2025, Associate Professor of Microelectronics and BioCAS Engineering, Electrical Engineering Department, Faculty of Engineering, Assiut University (<https://www.aun.edu.eg/>), Assiut, Egypt.

CEO, Information Technology Unit, Faculty of Engineering, Assiut University, Assiut, Egypt.

Acting Chairman, Associate Professor, Electrical and Electronic Devices Technology Dept., New Assiut Technological University, New Assiut City, Assiut, Egypt

Preparing and teaching electrical/electronic technology courses and supervising technological educational labs beside supervising and coordinating the electrical and electronic devices technology department.

April 2017 to March 2019, Post-Doctoral Fellow, Bio-Circuits and Systems Lab (BiCASL) (<https://bicasl-en.sjtu.edu.cn>), Shanghai Jiao Tong University, Shanghai, China.

- Leading a research team to design, simulate, and verify an Event-Driven Wireless Transceiver for Biomedical Applications
- Supervising Post-Graduate Students Designing Biomedical Circuits and Systems
- **Teaching**
 - Advanced Analog Integrated Circuits Design (Post-Grad. Students).
 - The Art of Layout and Physical Design (4th Year and Post-Grad. Students).
- **Supervisor of Following Research Projects**
 - Event-Driven Wireless UHF Transceiver for Biomedical Applications.
 - A Low Power Wireless Transceiver for Tire Pressure and Human Safety.
 - Neuromorphic Circuits Implementation using Memristors.

Sept. 2016 to March 2017, Post-Doctoral Researcher [Senior RFIC/Analog Design Engineer], ASIC Solutions Dept., Si-Ware Systems (SWS) (<https://www.si-ware.com>), Cairo, Egypt.

Design, Simulation and Verification of

- High Efficiency Class E Power Amplifier for Wireless Sensor Networks Applications
- Charge Balanced Stimulator Circuit for Biomedical Implants

April 2015 to June 2020, Assistant Professor, Electrical Engineering Department, Faculty of Engineering, Assiut University, Assiut, Egypt.

Part Time Assistant Professor, Electrical Engineering Department, Faculty of Engineering, Sohag University, Sohag, Egypt.

Feb. 2010 to Feb. 2015, Research Assistant, Electronics and Communications Engineering Department, Egypt-Japan University of Science and Technology (E-JUST), Alexandria, Egypt

Sept. 2013 to June 2014, Research Student, Graduate School of ISEE, Kyushu University, Japan

- **Research Topic:** CMOS front-end RF Transceiver Design
- **Research Point:** Design of Ultra-Wideband Low Noise Amplifier (UWB-LNA) and Multi-Phase Ring Oscillators (ROs)

The research process includes conducting a literature survey on RF design and its hot spots, proposing a new design suitable for Low Noise Amplifier and Multi-Phase Ring Oscillator implementations, simulation and verification of the proposed ideas, layout the proposed work and verification through measurement after fabrication.

Sept. 2008 to Feb. 2010, Teaching Assistant, Department of Electrical Engineering, Assiut University, Assiut, Egypt

Preparing and teaching laboratories and exercise sessions for Electronic Basics, Electrical Circuits Design and Analysis.

Courses Teaching: - I have taught most of the electronics and communications engineering core (undergraduate and post-graduate) courses such as,

- Advanced CMOS Analog ICs Design (Post Grad. Students)
- Advanced RFICs Design (Post Grad. Students)
- Advanced Semiconductor Devices (Post Grad. Students)
- WBG and High-Speed Semiconductors (Post Grad. Students)

- Advanced Digital Systems Design using VHDL (Post Grad. Students)
- Advanced Electronic Systems for Wireless Communications (Post Grad. Students)
- Advanced Low Power Digital Circuits Design (Post. Grad. Students)
- Design of Electronic Circuits using Computer (Post Grad. Students)
- The Art of Layout and Physical Design (Post Grad. Students)
- Electronic Circuits and Systems for Communications
- Computers and Programming Essentials – 1st Level
- Programming Languages, C ++ – 2nd Level
- Electrical Circuits I – 1st Year
- Electrical Circuits II – 2nd Year
- Electronic Devices and Circuits – 1st Level (Biomedical Eng. Program)
- Electronics I – 1st Year
- Electrical Materials Properties – 1st Year
- Electronics II - 2nd Year
- Digital Circuits Design – 2nd Year
- Applied Electronics – 2nd Year
- Electrical Machines – 2nd Year
- Digital Systems Engineering – 3rd Year
- Electronics III - 3rd Year (Electronics and Communications Division)
- Analog Communications and Signals – 3rd Year
- Digital Systems and C Programming – 3rd Year (Electronics and Communications Division)
- Very Large-Scale Integration and ICs – 3rd Year (Electronics and Communications Division)
- Integrated Circuits Design – 4th Year (Electronics and Communications Division)
- Radio Frequency Integrated Circuits and Systems – 4th Year
- Electronic Circuits I - 3rd Year (Electronics and Communications Division)
- Electronic Circuits II – 4th Year (Electronics and Communications Division)
- Embedded Systems – 4th Year (Mechatronics Division, Mechanical Engineering Dept.)
- Embedded Systems and Interface – 3rd Level (Biomedical Eng. Program)
- Digital Communications – 4th Year
- Digital Signal Processing -4th Year

Supervision

- Different and Multi-disciplinary Academic and Research Projects.
- Electrical Testing Labs - 1st Year
- Electrical Testing Labs - 2nd Year
- Electrical Testing Labs- 3rd Year (Elec. and Comm. Engineering Division)
- Electrical Testing Labs – 4th Year (Elec. and Comm. Engineering Division)

Professional Skills

- **Proposing multiple [~ 25 Measured] tape-outs** (Level Crossing-ADCs, Implantable Stimulators, Charge Balancers, Wearable Biomedical Stimulators, Biopotential Amplifiers, Low Noise Amplifiers, Ring Oscillators, ICs Power-Gating Circuits, Relaxation Oscillators, Mixers, BPFs, UHF Receiver, Bandgap Reference Circuits, and Passive RFICs components)
- **Wide and deep knowledge of Mixed-signal ICs and RFICs** (Design, simulation, verification, layout, and measurements).
- **Excellent knowledge and exposure to different CMOS technology nodes** (TSMC [180nm, 130nm, 90nm and 65nm], On-Semi [180 nm LVT and HVT], XFAB [350nm and 180nm], IBM [180nm, 130nm], and UMC [180nm])
- **Excellent knowledge and experience using RFICs/VLSI measurement tools** (Manual and Automatic Probe stations, Low Noise Changers, RF Probes, Spectrum and Network Analyzers, Signal Analyzers, Signal Generators, Digital Storage Oscilloscopes, Low Noise Power Sources, and Noise Meters).
- **Excellent capabilities of RFICs testbench implementation, investigation, and debugging** (On-chip or PCB mounted measurement and verification).
- **Excellent experience using VLSI design and simulation tools** (Cadence, Mentor Graphics, Synopsys, Tessent, ADS, Momentum, HFSS, CST, H-Spice/LT-Spice, L-Edit, Altium Design, and Proteus)
- **Programming of control systems** (PIC, Atmel, Arduino, and PLC Systems)

- **Programming/Description languages** (VHDL, Verilog-A HDL, Verilog-AMS, MATLAB, C, Assembly Simulation Language, FORTRAN and Visual Basic)

Education and Achievements

- **Ph.D. in Electronics and Communications Engineering, Egypt-Japan University of Science and Technology (E-JUST)** (<https://ejust.edu.eg>), Feb. 2012 to Feb. 2015. [in cooperation with E-JUST Center, Kyushu University, Fukuoka, Japan] (<https://www.ejust.kyushu-u.ac.jp/>)
CGPA: 3.71 out of 4.0 , For E-JUST Ranking [[Click Here](#)]
Dissertation: Ultra-Wideband Low Noise Amplifier and Multi-Phase Ring Oscillator Design Using CMOS Technology.
- **M.Sc. in Electronics and Communications Engineering, Egypt-Japan University of Science and Technology (E-JUST)** (<https://ejust.edu.eg>), Feb. 2010 to Feb. 2012. [in cooperation with E-JUST Center, Kyushu University, Fukuoka, Japan] (<https://www.ejust.kyushu-u.ac.jp/>)
CGPA: 3.52 out of 4.0, For E-JUST Ranking [[Click Here](#)]
Dissertation: CMOS Ultra-Wideband Low Noise Amplifier Design
- **B.Sc. in Electronics and Communications Engineering, Assiut University** (<https://www.aun.edu.eg>), Egypt, Sept. 2003 to July 2008.
Grade: Distinction with Honors. Ranked “First” among the 2008 graduating class.
 - **Graduation Project:** Portable Wireless ECG Monitoring System over Data Call
 - **Grade:** Excellent

Research Interests

- Design, Simulation, Verification, and Measurement of
- **AI-Based Electronic Circuits and Systems**
 - **Biomedical Integrated Circuits and Systems**
 - **Embedded Systems for Biomedical Applications**
 - **Wearable and Implantable Electronics**
 - **VLSI Mixed (Analog/Digital) Systems**
 - **Radio Frequency Integrated Circuits**
 - **Analog Circuits for Microwave Range**
 - **Ultra-Wideband Transceiver Front-End**
 - **Passive Integrated RFICs Components**
 - **Renewable Energy and Photovoltaic Systems**

Publications Thesis Publications :-

- [1] A. Omar, K. Yousef, K. Khalil, and M. Abbas, “Efficient Hardware For Hand Gesture Classification in Enhanced Prosthetics Using Deep Learning,” Assiut University Press, **July 2026**.
- [2] H. Shaker, **K. Yousef**, and M. Abbas, “Circuits and Systems Techniques for Balanced Functional Electric Stimulation of Upper Limb Muscles,” *Assiut University Press*, **Feb. 2026**.
- [3] A. Tammam, **K. Yousef**, and M. Abbas, “Design and Implementation of Wireless Power Transfer Systems for Implantable Biomedical Applications in CMOS Technology,” *Assiut University Press*, **Feb. 2026**.
- [4] A. Mosbeh, **K. Yousef**, and H. Mostafa, “Low Power Viterbi Decoder Design and Implementation for Satellite Communication Systems,” *Assiut University Press*, **Sept. 2025**.
- [5] M. Mohamedain, **K. Yousef**, and A. Kasem, “A Low Power LC-ADC Design for Biomedical Applications,” *Sohag University Press*, **Sept. 2025**.
- [6] M. Adel, **K. Yousef**, and U. Sayed, “Effect of Forward Body Bias on the Performance of Ultra-Wideband Low Noise Amplifiers in CMOS Technology,” *Assiut University Press*, **Feb 2025**.
- [7] A. Elsayed, **K. Yousef**, M. Atef, and M. Abdelgawad, “Design and Simulation of Wide Dynamic Range Low Noise CMOS Image Sensors using Photogates as Photodetector,” *Assiut University Press*, **Oct. 2019**.
- [8] **K. Yousef**, “Ultra-Wideband Low Noise Amplifier and Multi-Phase Ring Oscillator Design Using CMOS Technology,” *E-JUST Press*, **Feb. 2015**.
- [9] **K. Yousef**, “CMOS Ultra-Wideband Low Noise Amplifier Design,” *E-JUST Press*, **Feb. 2012**.

Peer Reviewerd Journals Publications :-

Note:- According to the promotions grading system requirements announced by the Egyptian Universities Prime Council, main contributors of the research work are recommended to be listed as First and Last authors.

- [10] A. Omar, **K. Yousef**, M. Abbas, and K. Khalil, "Real-Time Deep Learning for sEMG Gesture Classification," *Submitted* to *Neural Networks*.
- [11] A. Omar, **K. Yousef**, M. Abbas, and K. Khalil, "sEMG Dataset Generation for Hand Gesture Classification," *Submitted* to *Sensors and Actuators*.
- [12] H. Nasser, **K. Yousef**, M. Abbas, and K. Khalil, "Designing a High-Efficiency Charge Balancer for an Implantable Electrical Stimulator IC," *Computers and Electrical Engineering*, Vol. 136, 2026, 111219, (<https://doi.org/10.1016/j.compeleceng.2026.111219>).
- [13] J. Feng, Q. Xu, **K. Yousef**, P. Xu, Y. Zhao, Z. Xiao, "A Temperature-Compensated, Low-Power, Microsecond-Response Power Gating Circuit with Triple-Mode Overload Protection," *IEEE Transactions on Power Electronics (TPEL)*, Vol. 41, No. 6, 2026, pp. 9596-9606.
- [14] H. Nasser, M. abbas, K. Khalil, and **K. Yousef**, "Towards a High Efficiency Implantable Electric Stimulator for Programmable Biomedical Stimulation," *Computers and Electrical Engineering*, Vol. 126, 2025, 110495, (<https://doi.org/10.1016/j.compeleceng.2025.110495>).
- [15] A. Mosbeh, A. Younes, H. Mostafa, and **K. Yousef**, "Comparative Analysis of On-Chip FPGA Memory Architectures for Viterbi Decoder Implementation in DVB Systems," *Journal of Engineering Sciences (JES)*, Vol. 56, No. 4, July 2025, pp. 118-137.
- [16] M. Mohamedain, A. Kasem, K. Khalil, **K. Yousef**, "A 142.6 nW and 8.62 ENOB Level-Crossing ADC (LC-ADC) with Inverter-based Comparator for Biomedical Applications," *AEU-International Journal of Electronics and Communications*, Vol. 199, 2025, 155841, (<https://doi.org/10.1016/j.aeue.2025.155841>).
- [17] P. Qu, Zh. Xiao, Y. Zhao, and **K. Yousef**, "A High Accuracy Bandgap Reference with Adaptive Mechanical Stress Compensation," *AEU-International Journal of Electronics and Communications*, Vol. 191, 2025, 155674, (<https://doi.org/10.1016/j.aeue.2025.155674>).
- [18] M. Adel, U. Sayed, and **K. Yousef**, "On the use of Forward Body Biasing for Low Power Ultra-Wideband Low Noise Amplifiers Design and Implementation," *Journal of Engineering and Sciences (JES)*, Vol. 53, No. 1, Jan. 2025, pp. 82-101.
- [19] A. Elsayed, M. Abbas, and **K. Yousef**, "An Efficient Fully Bootstrapped RF-to-DC Rectifier for Impantable Biomedical Applications in CMOS Technology," *Journal of Engineering and Sciences (JES)*, Vol. 52, No. 6, Nov. 2024, pp. 88-102.
- [20] **K. Yousef**, and A. Elzahmi, "A High FoM and Low Phase Noise Edge-Injection-Based Ring Oscillator in 350 nm CMOS for sub-GHz ADPLL Applications," *Electronics* 2023,12, 18, 3769.
- [21] Y. Hou, Q. Jiali, Z. Tian, M. Atef, **K. Yousef**, G. Wang, and Y. Lian, "A 61 nW Level-Crossing ADC with Adaptive Sampling for Biomedical Applications," *IEEE Transactions on Circuits and Systems II: Express Briefs*, vol. 66, no. 1, Jan. 2019, pp. 1390-1394.
- [22] Z. Luo, G. Wang, **K. Yousef**, B. Lau, Y. Lian, and C. Heng, "A 0.0129 mm² DPLL with 1.6~2.0 ps RMS Period Jitter and 0.25-to-2.75 GHz Tunable DCO Frequency Range in 55-nm CMOS," *IEEE Transactions on Circuits and Systems II: Express Briefs*, vol. 65, no. 12, Dec. 2018, pp. 1844-1848.
- [23] Y. Hou, **K. Yousef**, M. Atef, G. Wang, and Y. Lian, "A 1-to-1-kHz, 4.2-to-544-nW, Multi-Level Comparator Based Level-Crossing ADC for IoT Applications," *IEEE Transactions on Circuits and Systems II: Express Briefs*, vol. 65, no. 10, Oct. 2018, pp. 1390-1394.
- [24] **K. Yousef**, H. Jia, R, et al., "A -193 FoM and -126 Phase Noise Octagonal Ring Oscillator Using Pulse Injection Technique," *Microwave and Optical Technology letters*, vol.58, no.7, pp 1760-1762, July 2016.
- [25] **K. Yousef**, H. Jia, A. Allam, et al., "A Low Phase Noise CMOS Ring Oscillator Using Phase Modulation and Pulse Injection Techniques," *IEICE Technical Report*, vol. 114, no. 45, MW2014-40, pp. 95-98, May 2014.

- [26] **K. Yousef**, H. Jia, R. Pokharel, et al., "CMOS Ultra-Wideband Low Noise Amplifier Design," *International Journal of Microwave Science and Technology*, vol. 2013, Article ID 328406, 6 pages, **2013**. doi:10.1155/2013/328406.

Peer-Reviewed Conferences Publications: -

- [27] A. Omar, M. Abbas, **K. Yousef**, and K. Khalil, "Dataset-Aware Evaluation of CNN and LSTM Networks for Real-Time sEMG Gesture Recognition," *2025 3rd International Conference on Artificial Intelligence, Blockchain, and Internet of Things (AIBThings)*, Mt Pleasant, MI, USA, 2025, pp. 1-5, doi: 10.1109/AIBThings66987.2025.11296229.
- [28] A. Omar, **K. Yousef**, K. Khalil, and M. Abbas, "An End-to-End sEMG-Driven Prosthetic Hand System: From Signal Acquisition to Real-Time Actuation," *2025 Int. Ja-pa-n-Africa Conf., on Electronics, Communications, and Computers (JAC-ECC 2025)*, pp. 1-4, **Dec. 2025**.
- [29] H. Shaker, A. Tammam, **K. Yousef**, K. Khalil, S. Mahran, E. Khedr, and M. Abbas, "Towards a Safe Long-Term Implantable Electrical Stimulation: A High-Efficiency Charge Balancer Design," *Proceedings of 15th Vienna International Workshop on Functional Electrical Stimulation (FES) and 30 Years' IFESS Anniversary*, pp. 83-86, **Sept. 2025**.
- [30] H. Shaker, A. Tammam, **K. Yousef**, K. Khalil, S. Mahran, E. Khedr, and M. Abbas, "Cost-Effective Remotely Fully-Controlled Electrical stimulator for Skeletal Muscles Rehabilitation," *Proceedings of 15th Vienna International Workshop on Functional Electrical Stimulation (FES) and 30 Years' IFESS Anniversary*, pp. 75-78, **Sept. 2025**.
- [31] A. Sayed, H. Nasser, K. Khalil, **K. Yousef**, and M. Abbas, "Towards Patient Controlled Skeletal Muscle Pacemaker for SCIs," *Proceedings of 2024 Padua Days on Muscle and Mobility Medicine (Pdm3-2024)*, **May 2024**.
- [32] A. Omar, M. Abbas, **K. Yousef**, and K. Khalil, "An Efficient Deep Learning Approach for sEMG Hand Gesture Classification," *Proceedings of 2023 Int. Ja-pa-n-Africa Conf., on Electronics, Communications, and Computers (JAC-ECC 2023)*, pp. 148-151, **Dec 2023**.
- [33] H. Nasser, A. Sayed, M. Abbas, S. Mahran, K. Khalil, and **K. Yousef**, "Towards a Low Cost Non-Invasive Patient Operated Electric Muscle Stimulator for People with Spinal Cord Injuries," *Proceedings of 2023 Int. Japan-Africa Conf. on Electronics, Communications, and Computers (JAC-ECC 2023)*, pp. 203-206, **Dec. 2023**.
- [34] E. Atef, M. Abbas, and **K. Yousef**, "A Low Power Modified Strong-ARM based Comparator for Biomedical Applications," *Proceedings of 2023 Int. Japan-Africa Conf. on Electronics, Communications, and Computers (JAC-ECC 2023)*, pp. 259-262, **Dec. 2023**.
- [35] A. Mosbeh, H. Mostafa, A. Younes, and **K. Yousef**, "Low Power Microarchitecture Designs of ACS Block in Viterbi Decoder," *Proceedings of 13th International Conference on Information Communication and Management 2023 (ICICM 2023)*, pp. 16-20, **Nov. 2023**.
- [36] M. Adel, **K. Yousef**, and U. Sayed, "A 0.65V Ultra-Wideband Low Noise Amplifier Using Forward-Body Bias Technique for Biomedical Applications," *Proceedings of 10th 2022 Int. Japan-Africa Conf. on Electronics, Communications, and Computers (JAC-ECC 2022)*, pp. 238-240, **Dec. 2022**.
- [37] **Khalil Yousef**, "A High FoM Down Conversion Mixer with a Boosted Conversion Gain for IEEE 802.11b and IEEE 802.15.4 Standards," *Proceedings of 2019 Int. Japan-Africa Conf. on Electronics, Communications, and Computers (JAC-ECC 2019)*, pp. 182-184, **Dec. 2019**.
- [38] H. Tao, **K. Yousef**, J. Jing, and G. Wang, "A High Conversion Gain Wideband Mixer Design for UWB Applications," *Proceedings of 2019 IEEE International Symposium on Circuits and Systems (ISCAS 2019)*, pp. 1-4., **May 2019**.
- [39] M. AbdelHafeez, **K. Yousef**, M. AbdelRaheem, E. Khaled, "Design of 6 GHz High Efficiency Long Range Wireless Power Transfer System Using Offset Reflectors fed by Conical Horns," *Proceedings of 2019 International Conference on Innovative Trends in Computer Engineering (ITCE 2019)*, pp. 365-370, **Feb. 2019**.
- [40] Y. Hou, Q. Jiali, Z. Tian, M. Atef, **K. Yousef**, G. Wang, and Y. Lian, "A 61 nW Level-Crossing ADC with Adaptive Sampling for Biomedical Applications," *2018 International-Solid-States-Circuits-Conference (ISSCC 2018), Student Research Preview (SRP)*, **Feb. 2018**.

- [41] **Khalil Yousef**, "A Low Phase Noise, High Figure of Merit, 3.1 GHz- 3.5GHz Ring Oscillator Using Edge Injection Technique", *Proceedings of 2017 Int.Japan-Africa Conf. on Electronics, Communications and Computer Engineering (JAC-ECC 2017)*, pp. 37-40, **Dec. 2017**.
- [42] A. Anand, **K. Yousef**, et al., "0.5 - 5.5 GHz Ring Oscillator with Pulse Injection in 0.18 μ m CMOS Technology," *Proceedings of 35th IEICE Technical Report on Silicon Analog RF (IEICE- SiRF) Technologies*, pp. 8-8, **Feb. 2015**.
- [43] A. Anand, N. Jana, **K. Yousef**, and R. Pokharel, "Wideband Injection Locked CMOS Quadrature Ring Oscillator with Small Phase Errors," *Proceedings of 2014 Korea-Japan Microwave Workshop (KJMW)*, **Dec. 2014**.
- [44] **K. Yousef**, H. Jia, R. Pokharel, et al., "A 0.18 μ m CMOS Current Reuse Ultra-Wideband Low Noise Amplifier (UWB-LNA) with Minimized Group Delay Variations," *Proceedings of 44th European Microwave Conference (EuMC 2014)*, pp. 1392-1395, **Oct. 2014**.
- [45] **K. Yousef**, H. Jia, R. Pokharel, et al., "A 0.18 μ m CMOS Current Reuse Ultra-Wideband Low Noise Amplifier (UWB-LNA) with Minimized Group Delay Variations," *Proceedings of 9th European Microwave Integrated Circuits Conference (EuMIC 2014)*, pp. 448-451, **Oct. 2014**.
- [46] **K. Yousef**, H. Jia, A. Allam, et al., "An Eight Phase CMOS Injection Locked Ring Oscillator with Low Phase Noise," *Proceedings of 2014 IEEE International Conference on Ultra-Wideband (IEEE ICUWB 2014)*, pp. 337-340, **Sept. 2014**.
- [47] **K. Yousef**, H. Jia, A. Allam, et al., "Multi-Phase Ring Oscillator with Minimized Phase Noise for Ultra-Wideband Applications," *Proceeding of 2014 International Conference on Information Science, Electronics and Electrical Engineering (ISEEE 2014)*, pp. 1115-1117, **April 2014**.
- [48] **K. Yousef**, H. Jia, R. Pokharel, et al., "Low Power, Low Voltage CMOS Ultra-Wideband Low Noise Amplifier for Portable Devices," *Proceeding of 2013 Second Japan-Egypt Conference on Electronics, Communications and Computers (JEC-ECC 2013)*, pp. 68-70, **Dec. 2013**.
- [49] **K. Yousef**, H. Jia, R. Pokharel, et al., "CMOS Ultra-Wideband Low Noise Amplifier (UWB-LNA) Using Symmetric 3D RF Integrated Inductor," *Proceeding of 2013 IEEE International Conference on Ultra Wide-band (IEEE ICUWB 2013)*, pp. 273-275, **Oct. 2013**.
- [50] **K. Yousef**, H. Jia, A. Allam, et al., "Design of 3D Integrated Inductor for RFICs," *Proceedings of Japan Egypt Conference on Electronics, Communications and Computing (JECECC-2012)*, pp. 22-25, **Dec. 2012**.
- [51] **K. Yousef** and A. Allam, "RFIC design challenges and LNA importance", *Poster in Research Industry day*, Biblioteca Alexandria, **April 2011**.
- [52] **K. Yousef**, H. Jia, R. Pokharel, A. Allam, M. Ragab and K. Yoshida, "A 2-16 GHz Current Reuse Cascaded Ultra-wideband Low Noise Amplifier," *Proceedings of Saudi International Electronics, Communications and Photonics Conference (SIECPC-2011)*. pp. 377-381, **April 2011**.

Research Projects

Principle group leader of the following research-oriented projects: -

- **Toward Patient-Operated Electric Muscle Stimulator for Patients with Peripheral-Nerve Injuries**, funded by the Science and Technology Development Fund – STDF, Egypt.
- **Low Power IR-UWB Transceiver for Biomedical Applications**, funded by National Key Research and Development of China (2016YFE0116900).
- **UHF (433 MHz) Receiver Design with Duty-Cycled Operation for Low Power Applications**, funded by the Natural Science Foundation of China (61874171)
- **Event-Driven Ultra-Low-Power SoC for Biomedical Applications**, funded by Natural Science Foundation of China (61474074)
- **Memristor-Based Neuromorphic Circuits Implementation**, funded by National Key Research and Development Program of China (2016YFC0105502)
- **Power Harvesting Implantable Biomedical Biphasic Stimulator**, funded by (Neospera, On-Semi, and Si-Ware Systems, USA)
- **Design and Implementation of Impulse Radio Ultra-Wideband Transceiver**, funded by Egyptian Ministry of Higher Education (MoHE) and partially funded by a Grant-in-Aid for Scientific Research (B) from JSPS.KAKENHI (23360159)

Funded Projects

Proposal writing and fund-grasping of the following projects: -

- **Design and Implementation of AI-Based Visual Aid glasses for Blind People** (Egypt Makes, Egypt)
- **Toward Patient-Operated Electric Muscle Stimulator for Patients with Peripheral-Nerve Injuries** (2M EGP, STDF, Egypt)
- **Biomedical Circuits and Systems Lab Foundation** (4.5M EGP, STDF, Egypt)
- **A Smart Internet-of-Things based Monitoring System for Critical Infrastructure** (2M EGP, STDF, Egypt)
- **Wireless Sensor Network-based Irrigation System using Microwave SoCs** (3M EGP, NTRA, Egypt)
- **Artificial Intelligence-based System for Smart Homes Lightening, Management, and Utilities Control** (100k EGP, MoHE, Egypt)
- **Portable Wireless ECG Monitoring System using Data Call** (100k EGP, NM, Egypt)

Scientific Activities

A Reviewer of: -

- IEEE Trans. Circuit Systems I (TCAS I)
- IEEE Trans. Circuit Systems II: *Express Briefs* (TCAS II)
- IEEE Access
- IEEE Trans. On Very Large-Scale Integration (T-VLSI)
- IEEE Trans. on Transportation Electrification
- International Journal of Electronics and Communications
- International Journal of Circuit Theory and Applications (IJCTA)
- International Journal of Communication Systems
- Chinese Journal of Electronics
- Engineering Reports
- Electronics (MDPI)
- Energies (MDPI)
- Chips (MDPI)
- Sustainability (MDPI)
- World Electric Vehicle Journal (MDPI)
- Analog Integrated Circuits and Signal Processing
- Microsystem Technologies (Springer)
- The Scientific World Journal
- Microelectronics Journal
- Academic Exchange Information Center [Expert Reviewer]
- IEICE Electronics Express
- International Journal of Microwave Science and Technology
- Journal of Engineering and Sciences (JES, Assiut University, Egypt). [Editorial Membership]
- Journal of Applied Research and Technology (JART)
- International Conference on Biomedical Circuits and Systems (BioCAS 2015 – 2024) [RCM]
- International Symposium on Circuits and Systems (ISCAS 2016-2025) [RCM]
- IEEE International Conf. on Electronics, Circuits, and Systems (ICECS) 2018 -2025] [RCM]
- IEEE International Conference on Ultra-Wide Band (ICUWB)
- IEEE International Conference on Microelectronics (ICM 2015-2024) [RCM]
- Saudi International Electronics, Communications and Photonics Conference (SIECPC)

A TPC Member of: -

- International Japan-Africa Conference on Electronics, Communications and Computer Engineering (JAC-ECC 2016, 2017, 2019, 2022, 2023 and 2025)
- International Conference on Innovative Trends in Computer Engineering (ITCE 2019, 2020)

A Supervisor of: -

- M.Sc. Thesis, Abeer El-Sayed [Demonstrator, Assiut University] - **(Graduated Sept. 2019)**
- M.Sc. Thesis, Mohammed Adel [Assiut University]- **(Graduated Feb.2025)**
- M.Sc. Thesis, Asmaa Mosbeh [Assiut University] - **(Graduated Sept. 2025)**
- M.Sc. Thesis, Mohammed Mohmdain [Demonstrator, Sohag University] - **(Graduated Sept. 2025)**
- M.Sc. Thesis, Asmaa Elsayed [Demonstrator, Assiut University] - **(Graduated Feb. 2026)**
- M.Sc. Thesis, Hany Nasser [Demonstrator, Assiut University] **(Graduated Feb. 2026)**
- M.Sc. Thesis, Ahmed Omar [Assiut University] **(Graduated July 2026)**
- M.Sc. Thesis, Mohamed Soliman [Demonstrator, Assiut University] **(Currently Running)**
- M.Sc. Thesis, Ali Alaa [Assiut University] **(Currently Running)**
- M.Sc. Thesis, Eman Atef [Assiut University] **(Currently Running)**
- Ph.D. Thesis, Hou Yuting [Shanghai Jiao Tong University] **(Currently Running)**
- Ph.D. Thesis, Tao He [Shanghai Jiao Tong University] **(Currently Running)**
- Ph.D. Thesis, Donia Yassine [Assiut University] **(Currently Running)**

- Ph.D. Thesis, Rabaa Mahmoud [TA, New Assiut Technological University] **(Currently Running)**

Scientific Conferences, Forums, and Workshops Attendance

- 2025 Int. Japan- Africa Conf. on Electronics, Communications, and Computers (JAC-ECC 2025).
- 2024 Wide-Bandgap Developer Forum, Infineon, April 2024 [Virtual-Online].
- 2024 Padua Days on Muscle and Mobility Medicine (2024 Pdm3), Padua, Italy [Online]
- 2023 Int. Japan-Africa Conf. on Electronics, Communications, and Computers (JAC-ECC 2023).
- 2022 Int. Japan-Africa Conf. on Electronics, Communications, and Computers (JAC-ECC 2022).
- Grants and Research Projects Workshop (TICO Project, Assiut University), 2022.
- 2021 Int. Japan-Africa Conf. on Electronics, Communications, and Computers (JAC-ECC 2020) [Online]
- Gulf Higher Education Conference – Virtual Event (Alhambra Chamber US)
- 2020 Int. Japan-Africa Conf. on Electronics, Communications, and Computers (JAC-ECC 2020) [Online]
- 2020 Electronics Design Innovation Conference (EDICON 2020) [Online]
- 2019 Int. Japan-Africa Conf. on Electronics, Communications, and Computers (JAC-ECC 2019), Alexandria, Egypt
- 2018 New York University-Shanghai (NYU- Shanghai) Research Day (Invited Talk)
- 2017 Int. Japan-Africa Conf. on Electronics, Communications and Computers (JAC-ECC 2017), Alexandria, Egypt
- 2017 IEEE-CAS Society Shanghai-Shikoku Joint Workshop (IEEE SSJW 2017)
- 2017 Electronics Design Innovation Conference (EDICON2017), Shanghai, China
- 2014 European Microwave Week (EuMW2014), Rome, Italy.
- 2014 IEEE Inter. Conf. on Ultra-Wideband (ICUWB2014), Paris, France.
- 2014 Inter. Conf. on Information Science, Electronics and Electrical Engineering (ISEEE 2014), Sapporo, Hokkaido, Japan.
- 2014 IEICE Workshop of Technical Committee on Microwave Engineering (IEICE –MW), Kyoto, Japan.
- 2013 IEEE Inter. Conf. on Ultra-Wideband (ICUWB2013), Sydney, Australia.
- Saudi Inter. Electronics, Communications and Photonics Conf. (SIEPC -2011), KACST, Kingdom of Saudi Arabia.
- Japan Egypt Conference on Electronics, Communications and Computer Engineering (JEC-ECC 2012), Alexandria, Egypt.
- Different Lectures on RFICs design and its challenges, E-JUST University, Egypt.
- Future Challenges in Multi-core design workshop, Nile University, Egypt.
- Research Industry Day, Bibliotheca Alexandria, Alexandria, Egypt.

Relevant Graduate Courses

- Advanced Analog Integrated Circuits Design
- Advanced Radio Frequency Integrated Circuits (RFIC) Design
- Analysis and Design of VLSI Mixed-Signal Integrated Circuits
- Advanced Digital Integrated Circuits
- Advanced Digital and Data Communications
- Advanced Topics in Neural Networks
- Advanced Digital Signal Processing
- Advanced Antenna Design
- Advanced Mobile Communications
- Advanced Optical Communications Systems
- Computer-Aided Verification of Electronic Circuits and Systems

Scientific and Professional Memberships

- IEEE Membership (July 2013 to Date)
- EuMA Membership (Sept. 2014 to Date)
- Egyptian Engineers Syndicate (June 2008 to Date)

Managerial Experiences

- **Chairman**, Electrical and Electronic Devices Program, New Assiut Technological University, New Assiut, Egypt (Sept. 2023 to Date)
- Faculty of Engineering **Council Membership**, Assiut University (May 2024 to Date).

- **Laboratories Financial Committee Chairman**, New Assiut Technological University, New Assiut, Egypt (Sept. 2023 to Date)
- **Laboratories Technical Committee Chairman**, New Assiut Technological University, New Assiut, Egypt (Sept. 2023 to Date)
- Electrical Engineering Dept. **Council Membership**, Faculty of Engineering, Assiut University, Assiut, Egypt (July 2020 to Date), (Sept. 2015 to Aug. 2016).
- **CEO**, IT Unit, Faculty of Engineering, Assiut University, Assiut, Egypt (July 2019 to Date).
- **Group Leader and Co-supervisor; ABET Accreditation SSR Preparation**, ECE Program, Electrical Engineering Dept., Assiut University. (2023)
 Role: I defined and stated the mission statements of the ECE program, department, faculty, and university. I formulated and stated the Program Educational Outcomes (PEOs) and defined their consistency with the defined ECE mission. I supervised the PEOs' review by the different boards involved. I formulated and handled the required periodic ECE mission and PEOs review and assessment worksheets. I supervised the surveys needed for SSR preparation. I co-supervised the SSR preparation and revision.
- **Group Leader, Egyptian NAQAA Accreditation**, Assiut University. (2022)
- **Examination Committee Membership**, Faculty of Engineering, Assiut University (Sept. 2019 to Date)
- **Laboratories Development Committee Membership**, Electrical Engineering Dept., Faculty of Engineering, Assiut University (Sept. 2019 to Date)
- **Co-founder and Manager**, Bio-Circuits, Systems, and Signals Laboratory, Assiut University (Sept. 2019 to Date)
- **Co-founder and Manager**, VLSI and Nano-Electronics Laboratory, Assiut University (May 2015 to Date)
- **BiCASL Management Council Membership**, Shanghai Jiao Tong University (SJTU), Shanghai, China (April 2017 to March 2019).
- Electrical Engineering Dept. **Council Secretary**, Faculty of Engineering, Assiut University, Assiut, Egypt (Sept. 2015 to Aug. 2016).
- **CEO**, IT Unit, Faculty of Engineering, Assiut University, Assiut, Egypt (July 2019 to Date). (April 2015 to Aug. 2016)
- **Engineering Studies and Consultations Unit Membership**, Faculty of Engineering, Assiut University, Assiut, Egypt (Sept. 2019 to Date), (July 2015 to Aug 2016)

Honors and Awards

- **Full Professor Title Award**, Egyptian Universities Prime Council, Egypt (Oct. 2025)
- **Electronics and Communications Engineering Program** received the **ABET Accreditation** till 30th Sept. 2030.
- E-JUST University ranked 106th according to Times Higher Education – Young University Ranking ([Click Here](#))
- Electrical Engineering Dept., Assiut University ranked 1st in Egypt and (301~400) worldwide according to Shanghai Ranking, 2020.
- **Associate Professor Title Award**, Egyptian Universities Prime Council, Egypt (May 2020)
- **POST-DOCTORAL FELLOWSHIP EXCELLENCE AWARD**, Shanghai Jiao Tong University, Shanghai, China (Nov. 2018)
- **RESEARCH ASSOCIATE** offer of appointment, Nanyang Technological University (NTU), Singapore (May 2016)
- **Expert Reviewer Appointment**, Academic Exchange Information Center (AEIC)
- Electrical Engineering Dept., Assiut University ranked (401~500) worldwide according to Shanghai Ranking, 2016
- **2016 FULBRIGHT JUNIOR FACULTY DEVELOPMENT PROGRAM (JFDP)**, July 2016-Sept 2016) official acceptance
- **EuMA STUDENT TRAVEL GRANT AWARD** in EuMW2014.
- **IEEE STUDENT TRAVEL GRANT AWARD** in ICUWB2013.
- **SIECPC 2011 Student Travel Grant**, KACST, Riyadh, KSA.
- **Official Research Assist. Academic Acceptance of Kyushu University**
- **Short Term Travel Grant Acceptance**, E-JUST Center (<https://www.ejust.kyushu-u.ac.jp>), Kyushu University, Japan
- Official Academic Acceptance of E-JUST University
- **Competitive Scholarship Award**, Egyptian Ministry of Higher Education (MoHE), 2010

- Graduation Project Recognition Award, Higher Education and Scientific Research Ministry, Sep. 2008
- Jelecom Company Recognition Award, Aug. 2008
- Graduated "First" in class with Distinction & Honors, B.Sc. in Electrical Engineering, Assiut University, June 2008
- Academic Excellence Reward (ranked 1st), Assiut University, 2004-2007
- Egyptian Syndicate of Engineers Recognition Award, Aug. 2008
- Egyptian Company for Mobile Services (Mobinil) Recognition Award, Sep. 2008
- Cairo University and Ford Foundation Award for having the highest GPA of 4.72 in Pathways programs, July 2007.
- Assiut University Representative in Future Leaders Preparation Program, Aug. 2007

Professional Courses (Certified)

- Research Proposals Writing for Post-Docs (DAAD, Cairo, Egypt).
- Grants and Research Projects Workshop (TICO, Assiut, Egypt).
- Academic Guidance
- Recent Trends in the Development of Higher Educational Institutions
- Quality Culture in Institutions
- Preparing a Proposal for Competitive Research Projects
- Excellence in University Teaching
- Quality Knowledge in Universities
- Ethical Conduct and Code of Ethics in University
- Exams Preparation and Student Evaluation
- University Legal and Financial Aspects
- Communication Skills in Education
- Quality Standards in Education
- The Credit Hour Systems
- Strategic Planning and Electronic Learning
- Scientific Research Ethics
- Competitive Research Projects
- Organizing Scientific Conferences
- Innovative and Analytical Thinking
- International Publishing of Research
- Technical Aspects of Scientific Research
- Statistical Analysis in Scientific Research
- Quality Standards in Universities' Teaching

Academic Projects

- **Design and Implementation of AI-Based Visual Aid Glasses for Blind People** (Supervisor, Assiut Uni. In cooperation with Egypt Makes)
Leading and supervising students while designing and implementing smart visual aid glasses powered by artificial intelligence to assist blind and visually impaired individuals in navigating daily life. The system integrates a lightweight camera module, an embedded processing unit such as a Raspberry Pi, and deep learning models to perform real-time object detection, scene description, text recognition, and obstacle avoidance. Additional features include facial recognition for social interaction, currency detection, and GPS-based navigation prompts. The glasses are designed to be affordable, low-power, and wearable, prioritizing offline functionality to ensure privacy and reliability without a constant internet connection.
- **Layout Design of USB4 PHY Transceiver** (Supervisor, Assiut Uni. In cooperation with Si-Vision Academy)
Leading and supervising students in end-to-end USB4 PHY transceiver design, covering architectural analysis of key building blocks: TX, RX, CDR, and Equalization while demonstrating the pre-layout simulation and PPA optimization for 40Gbps operation in 28nm/16nm CMOS, achieving <5pJ/bit power efficiency, which is followed by introducing advanced layout and routing techniques for optimal performance that was validated through post-layout simulation after extraction to ensure specification compliance before tape-out.
- **ASIC Design and Performance Optimization of Vortex: An Open-Source RISC-V GPGPU Architecture** (Supervisor, Assiut Uni. In cooperation with Silicon Arts)
Leading and supervising students to carry out a complete ASIC design and performance optimization flow for open-source Vortex RISC-V GPGPU architecture through synthesizing RTL, employing the

ASIC design flow, considering PPA optimization, including floor planning, and routing after layout for optimized ASIC design of RISC-V GPGPU unit.

- **Design for Testability Implementation for a RISC-V Processor** (Supervisor, Assiut Uni. In cooperation with Siemens EDA)

Leading and supervising students to present a comprehensive DFT flow applied to a RISC-V core to enhance test coverage, reduce test data volume, and enable robust post-silicon validation for high fault coverage, optimized pattern count, optimized compression ratios, and confirm the feasibility of adopted DFT methodologies, which could enable low-cost manufacturing and post-layout validation of intended SoC systems.

- **FPGA-Based Hardware Acceleration of Poseidon2 with RISC-V ISA Customization** (Supervisor, Assiut University in cooperation with Silicon Arts)

Leading and supervising students through the design and implementation of a hardware accelerator for Poseidon2 hash function and addressing the computational complexity and performance bottlenecks while considering the critical performance metrics such as execution latency, throughput, and FPGA resource utilization to enable efficient communication between the processor and the Poseidon2 accelerator, reduce the interaction overhead, and enhance scalability for cryptographic workloads.

- **Design of A High-Speed Standard Cell Library** (Supervisor, Assiut Uni. In cooperation with Si-Vision Academy)

Leading and supervising students designing and taping-out custom standard cells (Inverters, NANDs, AND, NOR, OR, MUX, latches, and FFs) utilized for ASIC design of high-speed serializers, deserializers, multi-modulus dividers (MMDs), at which loading effect, matching techniques, and driving capabilities of individual blocks are being considered, managed, and demonstrated.

- **Implementing DFT Methodologies for a RISC-V Processor** (Supervisor, Assiut Uni. In cooperation with Siemens EDA)

Leading and supervising students designing and ensuring reliability and performance of a RISC-V processor employing the suggested design-for-testability (DFT) methodologies, which would assist in debugging and diagnosing the product faults during taping-out, manufacturing, and packaging using the Tessent tool. By implementing effective testing strategies, manufacturers can ensure reduced cost, enhanced yield rates, and improvement of the overall dependability of RISC-V-based systems.

- **ATmega32-based Health Monitoring System** (Supervisor, Assiut Uni.)

A health monitoring system with the aid and help of ATmega32 is designed, simulated, and implemented to monitor the patients' heart rate with consideration of the detection of abnormal heart rates and needed actions such as giving alerts, calling doctors, or calling emergencies for help. This system also monitors the oxygen level in human blood to detect or predict health problems due to abnormal levels of Oxygen in the blood.

- **Automation of Folded Cascode OTA Physical Design** (Supervisor, Assiut Uni. In cooperation with Si-Vision Academy)

Leading and supervising students designing and drawing the layout of folded cascode OTA considering all design and layout matching techniques, at which attempts of design and layout automation are considered for fast, reliable, and flexible CAD tools' utilization to shorten time-to-market, provide high yield chips, and offer OTAs with optimized performance employing created/implemented scripts to create automated placement and routing of critical devices groups (current mirrors and differential pairs).

- **Low Power front-end for Wideband Applications** (Supervisor, SJTU and Assiut Uni.)

Leading students recognizing specifications and requirements of RFICs front-end in CMOS technology, providing training tutorials and lectures for simulation and verification of CMOS ICs design, physical design consideration, and students' leadership building the first tape-out of the project, design, and implementation of the testing PCB for chip performance evaluation, tutorials and training for measurement and results analysis, and optimization.

- **Smart Research Lab Implementation for Security and Identification** (Assiut Uni.)

Consideration of different circumstances, lab members, design, and implementation of a cost-efficient smart lab door lock, working for different members' identification, implementation of different identification mechanisms, verification and testing of the implemented identification systems, driving conclusions for different aspects and considerations of the project.

- **Pseudo Resistors' (PRs) modeling and implementation** (Supervisor, SJTU)

Introducing pseudo-resistors' different configurations, leading students through the detailed study of PRs, simulation of different PR configurations, and consideration of PR aspect ratios effects, employment of DC, AC, Transient, S-parameters, and Step-response simulation sets for PRs equivalent circuits building, physical design of PRs structures for tape-out, measurement of the implemented PRs configurations, and verifications for biomedical applications.

- **Neuromorphic Circuits using Memristor** (Supervisor, SJTU and Assiut Uni.)
Literature review for a good understanding of memristor properties and performance, simulation, and design of memristor equivalent circuits, detailed study of memristor in neural networks and artificial intelligence applications, analyzing and discussing different aspects of memristor behavior deviations, design and simulation of different neuromorphic circuits (neurons and synapses) using memristor.
- **Design and Implementation of Smart Electrical Vehicle Employing an Electrical Power Station Feed by High Power Solar-Cell Modules** (Supervisor, Assiut Uni.)
Building a smart prototype of an electric vehicle, design and implementation of the vehicle's smart system for accident avoidance, studying the smart vehicle's power consumption rate, preparation of detailed specifications of the provided solar-cell modules, design and implementation of electrical power station fed by solar-cell modules.
- **Design and Implementation of High-Power PV System** (Consultant, Assiut Uni.):
Electronic regulation, battery charging and inversion circuits design, implementation, and integration of a 2 KVA photovoltaic system providing an independent power source for terrestrial applications such as supporting smart home and surrounding areas with the needed power for operation and lightening.
- **Home Automation System** (Supervisor, Assiut University):
Built using interface circuits as sensors for different events to control home devices and maintain a set of conditions. If not maintained, the system sends SMS notification to the owner's mobile to take a suitable decision.
- **Portable Wireless ECG Monitoring System over Data Call** (Assiut University):
Pick up the ECG signal, condition the ECG signal for maximum SNR, digitize the ECG signal, formulate a valid data frame for GSM data call, placing data call, and provide ECG data after checking for errors, GUI design and implementation for doctor (hospital) side demonstration, and receive ECG signal display, system control and demonstration are done using an embedded system designed by me.
- **Automatic Power Saving System** (Assiut University):
Established using the 555 IC operating in its monostable mode of operation to save the power needed in homes in non-always living rooms and places.
- **High Power Display Board System** (Assiut University):
This system is implemented using a PIC16f84A combined with an interface circuit to deliver high electrical power to the display board used in visual announcements.

Language Skills

- Arabic: Excellent (Native Speaker) (Writing, Speaking, Listening, and Reading)
- English: Excellent (Writing, Speaking, Listening, and Reading)

Personal Attributes and Competencies

- **Strong ability to teach**, mentor, and support students from diverse academic backgrounds.
- **Deep interest in exploring emerging research areas** and building high-performing research teams.
- **Fast learner** with the ability to quickly grasp new concepts and translate them into practical outcomes.
- **Highly analytical with excellent problem-solving** and decision-making skills, particularly in complex technical environments.
- **Experienced in mentoring undergraduate and graduate students** across disciplines, providing academic guidance, technical supervision, and career advice.
- **Skilled in employing online learning management systems** and virtual collaboration tools to support student learning and engagement.
- **Committed to fostering student success through personalized mentorship**, project-based learning, and constructive feedback.
- **Proactive in identifying challenges and root causes**, with a strategic approach to troubleshooting.
- **Effective team player** with demonstrated leadership capabilities when needed.
- **Committed to continuous learning** and professional development.
- **Self-motivated, goal-oriented**, and driven by academic and research excellence.
- **Capable of handling responsibilities** independently with a strong work ethic.
- **Technically adaptable**; skilled at learning and applying new tools, systems, and methodologies.
- **Approachable, presentable, and collaborative** with a positive and engaging personality.

Personal Information

Nationality: **Egyptian**

Gender: **Male**

DOB: **15/01/1986**

References ▪ **Professor. Mohammed Abbas**

Head, Electrical Engineering Dept., Faculty of Engineering, Assiut University, Assiut 71718, Egypt.
Professor of Microelectronics, Electrical Engineering Dept., Assiut University, Assiut 71718, Egypt.

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▪ **Professor. Moumen Taha El-Melegy**

Former Vice Dean of Post-Graduate Studies and Research, Faculty of Engineering, Assiut University, Assiut 71718, Egypt

Former Head of Electrical Engineering Department, Faculty of Engineering, Assiut University, Assiut 71718, Egypt.

CIO, Assiut University, Assiut 71715, Egypt.

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▪ **Professor. Yongfu Li**

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Associate Editor, IEEE TBioCAS and IEEE Open Journal of Circuits and Systems.

Appointed Board of Governor, IEEE CAS Society.

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▪ **Professor. Mohamed Atef**

Professor, Electrical Engineering Dept., Faculty of Engineering, Assiut University, Assiut 71718, Egypt.

Assoc. Prof., Electrical Engineering Dept., United Arab Emirates University, Al Ain 15551, Abu Dhabi, U.A.E.

Associate Editor, IEEE TBioCAS and Vice Chair for IEEE-UAE CAS/SSCS Chapter.

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▪ **Professor Guoxing Wang**

Head, Bio-Circuits and Systems Lab (BiCASL), Shanghai Jiao Tong University(SJTU), Shanghai 200240, China.

Editor-in-Chief, IEEE Transactions on Biomedical Circuits and Systems (TBioCAS).

Vice President, IEEE CAS Society.

E-mail: gouxing@sjtu.edu.cn

▪ **Professor Mohammed Abo-Zahhad**

Former Dean, School of Electronics, Communications, and Computers Engineering, Egypt-Japan University of Science and Technology, New Borg Alarab, Alexandria 21934, Egypt.

Former Vice Dean of Post-Graduate Studies and Research, Faculty of Engineering, Assiut University, Assiut, 71718, Egypt.

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